CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2011
DateRun:	03/24/2011
Experimenters:	Junhee Cho, Timothy Weil
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics, Plastic, Steel
PartType:	Coupon
Contaminants:	Hucker's Soil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate the supplied product for all purpose cleaning.
Experimental Procedure:	Pre-weighed ceramic, plastic G-10 and painted steel coupons were coated with Hucker's Soil Formulation (Jiff Creamy Peanut Butter, Salted Butter, Arrowhead Mills stone ground wheat flour, Egg Yolk, Evaporated milk, distilled water, Printer's ink with boiled linseed oil, Shaws saline solution) using a handheld swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. Three coupons were placed into a Gardner Straight Line Washability unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The cleaning unit was run for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.
Results:	Supplied cleaner (TAP Inc Groap) was effective at removing more than 95% of the Hucker’s soil from two of the surfaces using manual wiping. However, for ceramic surface, supplied cleaner was only effective at removing more than 83% of the hucker’s soil. The comparable products removed was effective at removing more than 85% of the Hucker’s soil from three of the surfaces using manual wiping. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each of the ceramic, painted steel and plastic coupons cleaned.

Cleaner	Initial wt	Final wt	% Removed
TAP Ink Groap – Ceramic			
	0.8661	0.0222	97.44
	0.5752	0.0751	86.94
	0.6272	0.2153	65.67
TAP Ink Groap – Painted steel			
	0.0753	0.0041	94.56
	0.0384	0.0027	92.97
	0.1217	0.0028	97.7
TAP Ink Groap – Plastic GS-10			
	0.2306	0.0017	99.26
	0.1510	0.0019	98.74
	0.1215	0.0058	95.23
MD Stetson - Ceramic			
	0.1623	0.0256	84.23
	0.1463	0.0169	88.45
	0.1771	0.0142	91.98
MD Stetson - Painted steel			
	0.0713	0.0027	96.21
	0.1138	0.0014	98.77
	0.1005	0.0024	97.61
MD Stetson - Plastic GS-10			

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	0.2088	0.0585	71.98
	0.1952	0.0040	97.95
	0.1436	0.0048	96.66

Summary:

Substrates:	Ceramics, Plastic, Steel				
Contaminants:	Hucker's Soil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Next-Gen Supply Group	3R All Purpose Cleaner	2	91.54	☑	
Tap Environment	Kitchen Grease Remover	100	92.06	☑	

Conclusion: Gravimetric analysis showed that the TAP Inc product was as effective as the comparative product and would be considered an effective all-purpose cleaner.